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Dental Education

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DENTAL EDUCATION as a well-organized regimen of professional preparation began little more than a century ago. Even as late as 1900 only about three-fifths of the dentists in the United States had been trained in dental schools. In the last 50 years dental education has had a remarkable development as it was incorporated in many of the universities and became a well-recognized university discipline.

Dentistry

Dentistry, in some form, has been practiced for centuries. It was found in all the ancient civilizations. From early times to the present its practice and objectives have passed through various stages. At the beginning the function of the dental art was largely to relieve pain through the extraction of aching teeth. At an early date, however, dentistry developed means for the retention of loose teeth and the artificial restoration of lost teeth. The methods of repair and restoration of teeth have evolved with increasing regard for the esthetic and functional aspects of the service. Later the correction of irregularities in the position of teeth and the conservation of teeth by limiting the decay of defective teeth became common objectives. In addition to the notable advances in all these types of service, the prevention of dental disease has received emphasis in recent years, both in research and in clinical practice.

In the late years of the 19th century and the early years of the 20th a series of investigations of dental and other oral infections emphasized the idea that dental disease was related to a variety of systemic conditions, either as cause or as effect. The investigations showed that many systemic conditions were manifested in the oral cavity and that these manifestations were often mistakenly regarded as having their origin in the mouth. They also pointed out that pathological conditions which developed in the oral cavity spread to other parts of the body. Recent findings in chemical biology laid new emphasis on the importance of adequate diets and of balanced glandular functions for dentition and the maintenance of dental as well as general health. And more recently the conclusions of studies which showed

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the relations between the chemical (fluoride) content of drinking water and the maintenance of sound teeth provided further emphasis on the relation between general and dental health.

As a result of the developments mentioned above, dentistry has come more and more to be regarded as a significant service to the health—both dental and general—of the individual. It has also become obvious that there should be a very close relationship between dental and medical service. Some efforts have been made by practitioners, mostly dentists, to develop a close cooperative relationship between the dental and the medical professions, but in many instances they have not been outstandingly successful. Some cooperation does exist but by no means to the extent that is desirable in the interest of the public health.

Number of Dentists

There were 93,726 dentists in the United States in 1953, not including 588 in the Territories and Outlying Possessions. Thus there was 1 dentist to each 1,677 persons in the population. The distribution of dentists throughout the country is very different from the distribution of the population. In the State which is most poorly supplied the population per dentist (5,166) is almost 5 times as great as in the State at the other extreme (1,133). Likewise, within States the ratio of population to the number of dentists is in many instances very uneven from section to section. Sizable fairly well populated areas are today without dentists. Dentists, like practitioners of other professions, tend to settle in the larger and more prosperous centers, and therefore some communities are crowded with practitioners while many others are undersupplied.

The great majority of dentists are engaged in private practice and receive their income from fees of their patients. Most of these private practitioners carry on a general practice, but a small though increasing number limit their practice to a specialty, notably oral surgery, orthodontics, pedodontics, periodontics, or prosthodontics. A considerable number of dentists in the United States hold full-time or part-time salaried positions.

The extension of dental service to a larger percentage of the population has been accompanied by the development of auxiliary personnel—the dental hygienist, the dental office assistant, and the dental laboratory technician. Schools and courses exist for training these workers, but many of the dental assistants and the laboratory technicians obtain their training through a preceptorship or apprenticeship in a dental office or a dental laboratory.

Professional Organizations

The American Dental Association is the national professional association of dentists. It was founded in 1859, and at present it has 80,127 members. Constituent societies exist in every State, the District of Columbia, Hawaii, the Panama Canal Zone, the Philippine Islands, and Puerto Rico.

The association has established 18 councils, each with designated functions. Among them are the Council on Dental Education and the Council of the National Board of Dental Examiners. It maintains an office in Chicago with a staff of more than 100 employees. Its publications include the monthly *Journal of the American Dental Association*, the quarterly *Journal of Oral Surgery*, the annual *Accepted Dental Remedies*, and the *American Dental Directory*, which is issued from time to time.

There are a number of other dental associations, most of them organizations of specialists, such as the Academy of Denture Prosthesis, the American Academy of Periodontology, the American Association of Orthodontists, and the American Society of Oral Surgeons, whose members are also members of the American Dental Association. Local dental societies are found in many communities. The American College of Dentists, an important honorary association organized in 1920, consists of leading practitioners banded together to promote the highest professional aims.

Licensure

All States and the District of Columbia regulate the practice of dentistry and require practicing dentists to obtain licenses. The first State nominally to require an examination by a board for admission to the practice of dentistry was Alabama, in 1841, but the law appears to have been inoperative. Kentucky, New York, and Ohio in 1868 by law specified requirements for admission to dental practice. Other States followed, some rather slowly, and not until 1907 did all of them establish such requirements.

The licensing of dentists is usually a function of a State board of dental examiners, the members of which are generally appointed by the State governor. In a few States the licensing is delegated to State educational authorities who delegate the examining of candidates to the boards of dental examiners.

A number of States have reciprocal arrangement

under which they recognize licenses issued in other States. Under some of these arrangements a licensed dentist in one State is required to take only a practical examination in the State where he desires to practice.

The State boards of dental examiners have joined to form the American Association of Dental Examiners, originally established in 1883. Its purpose is to secure high and uniform qualifications for dental practitioners and uniformity in the working of these boards and of legislation creating them. The association has taken an interest in the improvement of dental education. It also concerns itself with the scope, content, and form of licensing examinations, the evaluation of credentials from foreign dental schools, the appraisal of American dental schools, and the violations of standards of dental practice. In recent years it has conducted an annual seminar on dental examinations.

Eight States provide by law for the licensure or certification of specialists. Some other States recognize the specialist to the extent that a dentist who limits his practice to a specialty may legally announce that fact publicly. In other States the laws are silent regarding specialty practice. Specialists have established boards in 7 fields to examine those who wish to obtain certification as specialists.

In order to provide a service to the State boards of dental examiners and to graduate dentists the National Board of Dental Examiners was established in 1928 through action by the American Dental Association. This board gives written examinations which are similar in range and content to examinations given by the State boards. All practical examinations are administered by the State boards. The examinations given by the national board have no independent legal status; they serve a useful purpose only insofar as State boards of dental examiners in some States are legally authorized to accept them in lieu of their own. These examinations are now recognized by 28 States and Puerto Rico and by the U. S. Army, the U. S. Navy, and the Public Health Service of the U. S. Department of Health, Education, and Welfare.

Evolution of Dental Education

Dental education, like several other forms of professional education, had its beginning in the preceptorial or apprentice system of training for the trades and professions in the Middle Ages. No dental school existed before 1840. In that year the Baltimore College of Dental Surgery was established—the first dental school in the world.[1] During the next 44 years 28 additional schools were established. The first university school was organized in Harvard University in 1867, and the first one established in a State university was at the University of Michigan in 1875.

After 1884 the number of dental schools increased until it reached the peak of 67 in 1900. By 1930 it had reached a low point of 38. Currently the number is 43. A new dental school is being organized at West Virginia University.

Many of the dental schools established before World War I were proprietary schools, schools calculated to make profits for the owners. As standards of dental education were raised, the proprietary schools were unable to continue; the last of them became a public trust in 1929. The elimination of the proprietary school was accompanied by a trend toward the absorption of dental education by the universities. Today there is only one independent dental school in the United States.

Educational Associations

Before 1884 the dental schools conducted their affairs without effective cooperation and in many respects in undesirable competition. In that year representatives of 10 schools established the National Association of Dental Faculties. For nearly 30 years it was the most influential executive agency for the general promotion of dental education.

Several other educational associations were formed. The National School of Dental Technics, established in 1893, became the American Institute of Dental Teachers in 1914. The Dental Faculties Association of American Universities was formed in 1908 by representatives of six university dental schools. In 1920 the Canadian Dental Faculties Association was established by the dental faculties in Canada. All three of these organizations were constructive influences for improved curriculums, better teaching, and higher standards of education.

The four associations were amalgamated in 1923 to form the American Association of Dental Schools. The schools of dentistry in the United States and Canada are members of this organization. It holds an annual meeting, publishes proceedings, and issues a quarterly periodical—the *Journal of Dental Education.*

[1] The Baltimore College of Dental Surgery was joined with the dental department of the University of Maryland in 1923 to become the Dental School of the University.

Educational Surveys and Studies

Four extensive surveys and studies have been made of dental education. The first of these, made by William J. Gies, was sponsored and financed by the Carnegie Foundation for the Advancement of Teaching and reported in 1926 under the title *Dental Education in the United States and Canada.* This work, an accurate and comprehensive source book on the evolution of dental education in America, spelled the doom of the proprietary dental school, emphasized the significance of dental care as a health measure, and indicated the obligation of society to provide adequate support for dental education and research.

By 1930 a set of new problems had arisen in dental education, one of which was the place of the biological sciences in the dental curriculum. A second problem related to the curriculum pattern which had become confused because the schools followed three types of plans: 1 year of predental education in arts and sciences and 4 years of dental education, 2 years of predental and 3 years of dental education, 2 years of predental and 4 years of dental education. The discussions of these and other problems led to an extensive curriculum survey, the results of which were reported in 1934 and published in 1935 under the title, *A Course of Study in Dentistry.* The project was sponsored by the American Association of Dental Schools and was financed by the Carnegie Corporation of New York. It dealt with the dental curriculum in considerable detail, and it recommended a 2–4 plan of dental education, which the association adopted. The report was extensively used by the dental schools as a guide in revising their curriculums. A second work resulting from this effort was published in 1945 as *Teaching in Colleges and Universities* with special reference to dentistry.[2] This publication deals with learning, the teacher, and methods of teaching.

The third study was a project of two deans of dental schools, John T. O'Rourke and Leroy M. S. Miner, and was reported in 1941 under the title *Dental Education in the United States.* It set forth opportunities for further progress and for more effective public service, and it suggested modifications "to raise the level of dental education to a point consistent with the enlarged body of knowledge in dentistry and its related fields." The report is a critical discussion of the principal problems of dental education.

The fourth study of dental education was made by the Council on Dental Education of the American Dental Association as a basis for issuing its list of approved dental schools in 1945. A detailed report of the findings was prepared by the executive secretary of the council, Harlan H. Horner, and published in 1947 as *Dental Education Today.* It is an outstanding work on recent conditions in dental education.

Accreditation

The first effort to accredit dental schools in the United States was made through the Dental Educational Council of America, which existed from 1909 to 1936. The function of accreditation is now performed by the Council on Dental Education, which was organized in 1938 as a standing committee of the American Dental Association. Three representatives of the American Dental Association, three of the American Association of Dental Examiners, and three of the American Association of Dental Schools constitute the membership of the council. The council has a full-time secretary, and it maintains an office at the headquarters of the American Dental Association. All dental schools in the United States have been approved by the council, but for three of them the approval is provisional.

In addition to accrediting dental schools, the Council on Dental Education performs other functions, one of which is the holding annually of a Congress on Dental Education and Licensure. This meeting affords dental educators and dental examiners an opportunity to discuss their common problems.

Schools of Dentistry and Enrollments

There are 43 dental schools in the United States. Four of them have been opened since 1945. There is now at least 1 dental school in each of 24 States and the District of Columbia. The control of the schools is: State, 16; municipal, 1; private, 26. About 38 percent of the undergraduate students are enrolled in the publicly controlled schools.

In the fall of 1953 the dental schools enrolled a total of 12,516 undergraduate students. (See table 1.) Of this number 117 were women. Additional enrollments included 834 special students, 332 graduate students, and 1,051 students of dental

[2] By Lloyd E. Blauch and Associates. Published by the American Association of Dental Schools.

hygiene.[3] The average (median) undergraduate dental enrollment was 285; the smallest was 42, and the largest 598.

Table 1.—Undergraduate, graduate, and postgraduate students enrolled in the dental schools of the United States, 1928–1953

[October enrollments]

Year (October)	Undergraduate students	Graduate students	Postgraduate students
1928	8,200	----	37
1929	7,813	----	20
1930	8,129	----	37
1931	8,031	35	5
1932	7,508	43	21
1933	7,160	38	26
1934	7,175	66	94
1935	7,306	78	63
1936	7,397	68	17
1937	7,184	81	70
1938	7,331	93	140
1939	7,407	126	276
1940	7,720	101	149
1941	8,355	90	186
1942	8,847	63	105
1943	9,014	54	309
1944	8,590	27	369
1945	7,274	67	580
1946	8,287	100	1,067
1947	8,871	183	1,071
1948	10,029	204	1,273
1949	11,336	282	1,138
1950	11,891	349	1,381
1951	12,169	299	1,376
1952	12,370	280	*4,435
1953	12,516	332	*4,131

*Based on enrollment for all or any part of the preceding school year.

Source: Dental Students' Register published by the Council on Dental Education, American Dental Association.

Admission Requirements

The Council on Dental Education has established as the minimum basis for admission to an approved dental school the successful completion of two full academic years of work in an accredited college of arts and sciences. The college course must include at least a year's credit in English, in biology, in physics, and in inorganic chemistry, and a half year's credit in organic chemistry. The standards state that all the courses in science should include both class and laboratory instruction. Formal credit in biology and physics may be waived for superior students with 3 or more years of college credit earned in an accredited college. All approved dental schools make these requirements of applicants for admission, and a few specify additional subjects or make certain other requirements.

For years some dental schools have given aptitude tests to applicants for admission. In 1946 the Council on Dental Education, in cooperation with the American Association of Dental Schools, instituted an aptitude testing program on a 5-year experimental basis. A nationwide program was established in 1950. The tests are given at a number of centers. The results of the tests are used by dental schools as one type of data in determining which applicants to admit. More than 98 percent of the freshman students admitted by the dental schools in the fall of 1952 had taken the aptitude tests and presented scores for consideration.

A majority of the students recently admitted to dental schools have had 3 or more years of work in college. The amount of predental college training of the 12,516 undergraduates enrolled in 1953 was: 2 years, 22 percent of the students; 3 years, 27 percent; 4 years without degree, 6 percent; bachelor's degree, 42 percent; master's or other advanced degree, 3 percent. Thus it will be noted that slightly more than one-half of the dental students had at least 4 years of college work before they enrolled in dental school.

The current admission requirements are the result of a development extending over more than a half century. In 1885 the admission requirement of schools belonging to the National Association of Dental Faculties was stated as "a good English education," and in 1897 it was established as a certificate of entrance to the first year of a high school, or its equivalent, to be determined by examination. Not until 1910 were applicants required to complete an accredited high school course or to pass an examination representing the equivalent of such a course. This requirement was also adopted by the Dental Educational Council of America in 1910. Beginning with the school year 1926–27 the council required all approved dental schools to exact for admission 1 year of college work with credit in certain prescribed subjects.

When the American Association of Dental Schools acted on the report of its Curriculum Survey Com-

[3] Twenty-two dental schools maintain schools for dental hygienists; an additional 9 schools for dental hygienists, not parts of dental schools, enrolled 747 students in 1953.

mittee in 1934 it adopted the 2-4 plan of dental education. This plan was accepted by the Council on Dental Education and placed in its requirements for the approval of a dental school, effective with the academic year 1942–43. It remains in force today.

Professional Curriculums and Degrees

The professional curriculum in dentistry in all dental schools covers 4 academic years. In several schools the time may be shortened by study in a summer session or in a summer quarter, but the total amount of time required of the student is the equivalent of 4 years. The Council on Dental Education requires each approved school to have a course of study of not less than 3,800 and not more than 4,400 clock hours. The courses consist of didactic instruction and laboratory and clinical instruction and experience. About one-fourth of the student's time is taken up by the didactic instruction, and the rest is spent in the laboratories and the clinics.

The subjects usually found in the dental curriculum are anatomy, histology, embryology, oral anatomy, physiology, biochemistry, bacteriology, pharmacology, pathology, diagnosis, radiography, medicine, orthodontics, dentistry for children, operative dentistry, periodontics, pulp canal therapy, prosthetic dentistry, oral surgery, anesthesia, dental materials, public health, history of dentistry, practice management, ethics, and jurisprudence.

During a considerable part of the junior and senior years—in a number of schools and to a limited extent in each year—the student renders service to patients in the dental clinics, where he learns to perform practically all types of dental operations. In some dental schools, however, the instruction in several fields, notably orthodontics, is limited, and it is assumed that graduates who desire to treat cases of malocclusion, cleft palate, impacted teeth, and other conditions that present special difficulties will engage in further study through graduate and postgraduate courses.

The 4-year curriculum in dentistry is the result of more than a hundred years of progress. The Baltimore College of Dental Surgery in 1840 required the student to take two courses of lectures, each of about 4 months' duration. Graduates received the degree of doctor of dental surgery (D. D. S.). Apparently the college had no regular clinic or infirmary until 1845. It was expected that recipients of the dental degree should obtain, or have obtained, practical experience in a dentist's office, but this requirement was probably not insisted upon. With the development of dental clinics in the colleges, the general pattern of dental education—a combination of didactic, laboratory, and clinical instruction—was established. Most of the colleges followed the first one in awarding the D. D. S., but the Harvard University Dental School awarded the degree of doctor of dental medicine (D. M. D.).

As the States enacted dental practice laws requiring dentists to be licensed, graduation from a dental school became a common prerequisite to obtaining a license, and training by apprenticeship fell into disuse. This development was accompanied by a trend toward lengthening the school program through increasing the number of years and the number of school months each year. By 1884, when the National Association of Dental Faculties was organized, the trend in dental education was toward a 3-year curriculum. However, not until 1889 did that organization demand that its members require students to attend three full regular courses of not less than 5 months each in separate years. From time to time the annual sessions were lengthened, and in 1917 the association set the minimum time for graduation at four separate academic years each of 32 weeks of 6 days. This was also the standard adopted by the Dental Educational Council of America effective in 1917. The council in 1926, taking into account a recommendation of Dr. Gies for a 2–3 plan of dental education, recognized that plan in its standards.

Subsequent actions on the plan of dental education as taken by the American Association of Dental

Table 2.—First professional degrees conferred by dental schools, 1935–1953

Year ended	Number of degrees	Year ended	Number of degrees
1935	1,840	1945	3,211
1936	1,736	1946	2,666
1937	1,739	1947	2,225
1938	1,704	1948	1,755
1939	1,794	1949	1,574
1940	1,757	1950	2,565
1941	1,568	1951	2,830
1942	1,784	1952	2,975
1943	1,926	1953	2,945
1944	2,470		

Source: Dental Students' Register published by the Council on Dental Education, American Dental Association.

Schools in 1934, and later by the Council on Dental Education, have been indicated in the previous section.

The degree awarded by most of the dental schools for the completion of the dental curriculum is Doctor of Dental Surgery, but 4 schools grant the degree of Doctor of Dental Medicine. The dental profession and the State boards of dental licensure recognize no distinction between the two degrees.

Recently almost 3,000 students a year have received degrees in dentistry. (See table 2.)

Graduate Education

Graduate courses for dentists have been available for some years, but until recent years the enrollment in such courses was small. (See table 1.) The 332 graduate students in the fall of 1953 were found in 26 schools. Enrollments ranged from 1 to 37. A small number of additional graduate students in dentistry are found in the School of Medicine and Dentistry at the University of Rochester and the Walter G. Zoller Memorial Dental Clinic at the University of Chicago. The great majority of the graduate students are working for the master's degree; a few are enrolled for doctor's degrees, usually the doctor of philosophy. Almost 100 graduate degrees are conferred each year. (See table 3.)

Table 3.—Graduate degrees conferred in dentistry and dental science, 1947–1953

Year	Master's and second professional degrees	Doctor's degrees
1947–48	92	----
1948–49	84	----
1949–50	89	1
1950–51	74	1
1951–52	95	2
1952–53	96	----

Source: Compiled from annual reports of earned degrees made by the Office of Education.

Postgraduate Education

A considerable number of practicing dentists continue their professional education but without working toward advanced degrees. Some of these practitioners prepare for specialized practice and take courses extending over 1 or more years. These long courses have become a regular feature of the instruction in a limited number of dental schools. Upon completion of these courses the students receive certificates of proficiency.

Other practitioners pursue, in dental schools, short courses of a few days to several weeks, largely to review and refresh their knowledge or to bring themselves up to date on current knowledge and techniques. For years dental associations and societies have provided short courses and clinics for practitioners.

The 4,131 postgraduate students reported for the year 1952–53 were found in 32 dental schools. The enrollments ranged from 2 to 457. They did not include 3,500 dentists enrolled in a telephone program offered by one of the schools.

Internships and Residencies

In recent years a number of hospitals have established dental internships and residencies. The hospital dental internship is "a form of professional education beyond the undergraduate level which offers special opportunity for advanced clinical experience and additional training in the sciences basic for dental practice." The dental intern is a member of the house staff of the hospital, and he works and studies under the supervision of the staff. Internships usually are for 1 or 2 years. Delaware is the only State which requires a dental graduate to have a year's internship before he can be admitted to the dental licensing examination.

A hospital dental residency, as defined by the Council on Dental Education, is "a progressive and graduated educational experience, under hospital auspices, designed for the dental graduate who has completed a dental internship in an approved hospital, or at least a year of graduate training in basic sciences, or a suitable equivalent acceptable to the Council on Dental Education." In general, residencies are planned to train dentists for specialties. They usually extend over a period of not less than one calendar year.

The Council on Dental Education has had the responsibility, since 1946, for reviewing and approving hospital educational programs for dental graduates. As of September 1953 the council had approved 156 dental educational programs in 119 hospitals.

Research

Research in dental problems is carried on in a number of dental schools and in several organizations and agencies. For years, beginning in 1913, the American Dental Association had a Research Commission

which supported a variety of projects. This work is now sponsored by the Association's Council on Dental Research. The National Institute of Dental Research of the Public Health Service also supports research activities through fellowships and research grants. Funds have been made available by philanthropic and governmental agencies for research in some of the dental schools. A result of this development is that some excellent work is under way.

The President's Commission on the Health Needs of the Nation reported in 1952 that the dental schools of the country in 1949–50 spent $733,000 for research. This figure represented only about 3 percent as much as the amount expended by medical schools for research.

The International Association for Dental Research, formed in 1920, is one of the principal agencies for promoting inquiries into dental diseases and disorders and dental materials. It has sections in a number of cities of the United States and in several foreign countries. The association, which has 600 members, holds an annual meeting immediately preceding that of the American Association of Dental Schools. It publishes the bimonthly *Journal of Dental Research.*

Some Current Problems

Dental education is today beset with numerous problems. The following discussion of some of them is based upon statements obtained from eight deans of dental schools.[5]

Financial support.—The most serious problem in dental education is a financial one; the support is not sufficient to secure adequate facilities and teaching staffs. Only 16 States maintain dental schools, and a few others make contributions to schools not controlled by them. Several additional States have entered into regional arrangements to educate limited numbers of dental students. A large number of the States have not shown a willingness to shoulder the burden of educating their dentists.

The most recent data on the income of dental schools were reported from the survey made by the Council on Dental Education. They showed that for the year 1940–41 the privately controlled dental schools received 49.5 percent of their current income from students, 33.5 from clinic receipts, and only 17 percent from other sources. Thus these schools place much dependence upon receipts from student fees and from clinic fees paid by patients. Dental schools are increasing fees in order to balance their budgets but in doing that they are failing to acquire fully the funds they need. Moreover, the increasing student fees are tending to put the cost of dental education beyond the reach of many well qualified young men and women. The publicly controlled dental schools are in a somewhat better financial position than the others, but even they run into great difficulty in obtaining legislative support for anything beyond their undergraduate programs.

Physical facilities.—Many dental schools lack adequate buildings and equipment to carry on first rate programs of dental education. A number of the schools are well housed and equipped, but the majority are hindered in their teaching efforts because of poor physical facilities.

Medical-dental relationship.—In some universities the relationship between the dental school and the medical school is far from satisfactory, although it is slowly improving. Instruction in the basic sciences in many institutions is organized in the medical schools, which at times results in neglecting and penalizing the dental student. One dental dean suggests that, in order to correct such a situation, basic science departments should be organized in the universities but outside the medical schools. In some universities the dental schools and the medical schools maintain their own faculties and departments in the basic sciences. There is often only a limited amount of cooperation in the clinical instruction of the medical and dental schools, but in a few institutions good working arrangements exist.

Curriculum and teaching methods.—What should be the content of the dental curriculum and how should it be organized and taught are ever-present problems. The objectives of dental education should be restated. There should be more instruction in the basic sciences and better integration and coordination between instruction in the sciences and the clinical instruction. Ways should be found, if possible, of reducing the heavy demands made on students by the technic and clinical requirements without lowering the achievement of students. How all the learning required to make a competent dentist can be accomplished in a period of 4 years is a question that has not been satisfactorily answered, and with the increase in the knowledge of dental problems and the development of new forms of dental service

[5] William H. Crawford, University of Minnesota; Maynard K. Hine, Indiana University; Harry Lyons, Medical College of Virginia; Lee Roy Main, St. Louis University; Harold J. Noyes, University of Oregon; J. Ben Robinson, West Virginia University; Gerald D. Timmons, Temple University; and L. E. Van Kirk (deceased), University of Pittsburgh.

it becomes even more difficult to answer. The dental curriculum in almost all the schools lacks the flexibility that is essential to making the most of the talents and interests of dental students.

With an increasingly crowded curriculum the problem of finding and using the most efficient and effective teaching methods becomes ever more pressing.

These considerations have given rise to the feeling among dental educators that a new thorough study should be made of the dental curriculum on a nationwide basis. Steps have been taken to provide for such a project as an integral unit in an extensive survey of dentistry and the dental profession.

Teachers.—A continuing short supply of competent dental teachers presents a marked difficulty. This shortage is serious not only in terms of numbers but even more in terms of interest and competence. Limited financial remuneration is largely responsible for this problem. A small number of dental schools are trying through graduate and post-graduate courses and fellowships and well paid assistantships to develop competent clinical teachers, but the number of such new teachers becoming available is far from adequate to meet current and future needs. What is needed is more graduate education to prepare graduates for teaching careers in dentistry, and also more inservice training to improve the work of teachers. Programs to accomplish these purposes should provide specifically for some training in the art of teaching.

Graduate work.—Providing funds for graduate work is one of the serious problems in dental school programs. To an increasing degree, dental graduates wish to continue their education, but their opportunities to obtain fellowships and to find the training they desire are limited.

Postgraduate opportunities.—Opportunities for postgraduate education in dentistry are not now available in terms of quantity and quality that are needed, although they are increasing. Reasons why postgraduate programs have developed slowly or are entirely lacking in some dental schools are the lack of facilities and funds to employ additional staff for such instruction and the caution that must be observed not to attempt to conduct postgraduate courses at the expense of undergraduate education. Progress has been made by some schools in obtaining adequate facilities and funds for this purpose. The W. K. Kellogg Foundation has made grants to several schools to assist in developing postgraduate instruction. These grants have been a great stimulus in some areas of the country.

Research.—One of the most difficult problems is the lack of extensive, sustained, broad dental research programs in many dental schools. A considerable amount of research is being done by dental teachers but frequently under frustrating conditions. Inadequate physical facilities, poor financial support, and heavy teaching assignments which consume the time and energy of teachers are handicaps to research.

Such are some of the difficult problems which currently confront those who are concerned with dental education. They are being handled with vision and determination; they will be overcome as the public sees the need for and provides adequate financial support, either through philanthropy or through appropriations from public funds.

Dental Schools and Enrollments

The undergraduate and graduate dental enrollments in the 43 dental schools on October 15, 1953, are shown below. The first number indicates the undergraduate and the second number the graduate students.

ALABAMA
- University of Alabama, 189–10

CALIFORNIA
- College of Medical Evangelists, 42–0
- College of Physicians & Surgeons, 212–0
- University of California, 233–4
- Univeristy of Southern California, 410–10

DISTRICT OF COLUMBIA
- Georgetown University, 368–10
- Howard University, 193–0

GEORGIA
- Emory University, 310–2

ILLINOIS
- Loyola University, Chicago, 363–0
- Northwestern University, 388–36
- University of Illinois, 290–16

INDIANA
- Indiana University, 274–13

IOWA
- State University of Iowa, 208–24

KENTUCKY
- University of Louisville, 231–1

LOUISIANA
- Loyola University, New Orleans, 212–0

MARYLAND
- University of Maryland, 428–5

MASSACHUSETTS
Harvard University, 60–0
Tufts College, 362–1

MICHIGAN
University of Detroit, 291–3
University of Michigan, 362–37

MINNESOTA
University of Minnesota, 358–22

MISSOURI
St. Louis University, 301–4
University of Kansas City, 410–9
Washington University, 193–8

NEBRASKA
Creighton University, 177–0
University of Nebraska, 125–5

NEW YORK
Columbia University, 153–0
New York University, 598–10
University of Buffalo, 234–0

NORTH CAROLINA
University of North Carolina, 167–4

OHIO
Ohio State University, 440–26
Western Reserve University, 233–2

OREGON
University of Oregon, 291–0

Pennsylvania
Temple University, 518–0
University of Pennsylvania, 542–32
University of Pittsburgh, 383–18

TENNESSEE
Meharry Medical College, 124–0
University of Tennessee, 393–0

TEXAS
Baylor University, 274–0
University of Texas, 243–0

VIRGINIA
Medical College of Virginia, 206–0

WASHINGTON
University of Washington, 285–20

WISCONSIN
Marquette University, 442–0

Totals:
Undergraduates (men, 12,399; women, 117), 12,516
Graduate students (26 schools), 332
Special students (12 schools, not included above), 834
Postgraduate students (31 schools, not included above), 4,131

Selected References

American Association of Dental Schools. *A Course of Study in Dentistry:* Report of the Curriculum Survey Committee. Indianapolis, Ind., The Association, 1935. 412 p.

American Dental Association, Council on Education. *Dentistry as a Professional Career:* A Brochure for the Use of Guidance Officers and Prospective Students. Chicago, Ill., The Association, 1941. 72 p. A brief and up-to-date edition was issued by the Association in 1952 titled *Digest of Dentistry as a Professional Career* (mimeo, 13 p.).

Federal Security Agency, Public Health Service. *Financial Status and Needs of Dental Schools.* Washington, D. C., U. S. Government Printing Office, 1952. 83 p. Public Health Service Publication No. 200.

Gies, William J. *Dental Education in the United States and Canada:* A Report to the Carnegie Foundation for the Advancement of Teaching. New York, N. Y. The Foundation, 1926. 692 p.

Horner, Harlan H. *Dental Education Today.* Chicago, Ill., The University of Chicago Press, 1947. 420 p.

O'Rourke, John T. and Leroy M. S. Miner. *Dental Education in the United States.* Philadelphia, Pa., W. B. Saunders Company, 1941. 367 p.

Adapted Sports at Michigan State College

AN ADAPTED SPORTS course at Michigan State College for helping young men who have heart ailments, injuries or deformities to participate in sports is now in its sixteenth year. If the student has a defect which can be corrected, a medical prescription for exercise as outlined by the student's hometown doctor or by the campus health center staff is followed. The course also emphasizes protection of the student and a suitable recreational program for him. Facilities are available for archery, bait and fly casting, canoeing, punching bag, rings, and a wide variety of indoor games. Students enrolled in the course are graded on their classwork the same as those in other physical education classes.

"In the history of education, the most striking phenomenon is that schools of learning, which at one epoch are alive with a ferment of genius, in a succeeding generation exhibit merely pedantry and routine. The reason is that they are overladen with inert ideas."—Alfred North Whitehead.

Chiropody Education

BY WILLIAM J. STICKEL, D. S. C.*

CHIROPODY is one of the professions of recent development. Today its practitioners are found in every State and the District of Columbia. More than 300 chiropodists enter the field each year.

Meaning of Chiropody

Chiropody is that specialty of medicine and surgery (an ancillary profession) which is concerned with the care of the human feet, in health and in disease. It consists of the prevention, diagnosis, and treatment of foot disorders by electrical, mechanical, physical, medical, and surgical methods, except amputation of the foot or toes, and includes the nonsurgical treatment of the muscles and tendons of the leg governing the functions of the foot.

The term "chiropody" was first used in 1768 by an Englishman, D. Low, who wrote a treatise entitled "Chiropodologia." A synonym, *podiatry*, common in a few States, came into use in 1917. The words "chiropody" and "podiatry" were derived from two Greek words—cheiro, meaning hand; pous, meaning foot. Originally chiropody was the art of treating diseases of the hands and feet, but today it is confined to treating the feet.

The chiropodist is one of the guardians of public health, and he shares this responsibility with other members of the healing sciences through clinical experience, education, knowledge, skill, and specialization. In treating the lower extremities the chiropodist often finds signs of systemic ailments which are reflected in the feet and legs. Some of these are arthritis, arteriosclerosis, anemia, heart disease, kidney disturbances, and diabetes. The chiropodist is the only practitioner who confines himself exclusively to the care of foot disorders. His practice includes the treatment of skin diseases and infections, shoe therapy, appliance therapy, physical therapy, orthopedic therapy, and surgery.

The Profession

A census of chiropodists completed by the National Association of Chiropodists on January 1, 1953, showed that there were 7,277 licensed practitioners in the United States. Chiropody is one of the least crowded of the professions concerned with maintaining public health. At present there is approximately one chiropodist for every 25,000 persons in the United States. The estimated future need for practitioners is an additional 3,000 by 1958 and 5,000 by 1968. The increased demand for professional foot care arises because more than 70 percent of the population is afflicted with some type of ailment in the feet.

The practice of chiropody is regulated by law in every State and the District of Columbia. Following graduation from a chiropody college, the graduate is required to take a State board examination to obtain a license. Such examinations are given in the various States by boards of chiropody or medical examiners. Most States also grant reciprocal licenses to practitioners previously licensed by examination in other States.

The official organization of chiropodists, founded in 1912, is the National Association of Chiropodists. Affiliated with it are 49 State societies and several speciality organizations: American College of Foot Surgeons, American Society of Chiropodical Roentgenology, and the American College of Foot Orthopedists.

The official publication of the profession is the *Journal of the National Association of Chiropodists*, published monthly. Other publications are the *Chiropody Record* and *Current Chiropody*. Many societies issue regional or local journals.

Evolution of Chiropodical Education

Prior to 1912 chiropodists secured their training through the preceptorship system. In that year the Illinois College of Chiropody and Foot Surgery and the College of Podiatry of Long Island University were founded to teach the basic principles of foot medicine and surgery. The original courses at these institutions were of approximately 6 months' duration. There are now six recognized colleges in the United States. They have a combined enrollment of nearly 1,000 students, and they graduate annually from 300 to 400. (See the accompanying table.)

All six schools are members of the American Asso-

*Executive secretary, National Association of Chiropodists, Washington, D. C.

ciation of Chiropody Colleges, which was organized in 1933.

Accreditation

Chiropody colleges are accredited by the Council on Education of the National Association of Chiropodists, which was created in 1918. This body spent 3 years in organizing and formulating rules for its guidance. In 1921 the council proceeded to carry out its functions of regulating chiropodical education and making thorough inspections of the chiropody colleges. There are seven members of the Council on Education, all of whom are elected by the House of Delegates of the National Association of Chiropodists. To insure continuity of activity, two members are annually elected for 3-year terms. At the annual meeting of this body a chairman is elected.

Number of students enrolled in colleges of chiropody in stated years and number graduated [1]

Year ended	Students	Graduates	Year ended	Students	Graduates
1913	161	74	1944	997	366
1915	245	128	1945	1,022	324
1920	342	184	1946	1,069	298
1925	694	364	1947	1,143	281
1930	824	258	1948	1,181	368
1935	864	226	1949	1,204	393
1940	1,166	490	1950	1,096	422
1941	1,288	424	1951	1,087	381
1942	1,225	403	1952	945	329
1943	1,205	419			

[1] In 1913 and 1915 there were 3 colleges, in 1920, 5 colleges, and from 1925 there were 6.

Over the years the regulations of the council have been periodically revised and elaborated into the essentials for classification in keeping with the progress being made in chiropodical as well as professional education in general. Among the important objectives of the council are the standardization of preliminary educational requirements and the revision of the basic 4-year course. All expenses involved in the operation of the council are borne by the National Association of Chiropodists.

Admission Requirements

The academic requirement for entrance to the colleges of chiropody in 1913 was the completion of 2 years of high school or the equivalent as indicated by a qualifying certificate issued by appropriate authorities. The requirement was raised in 1930 to graduation from a 4-year high school, and in 1940 to the completion of 1 year of study in an approved college. Currently four of the colleges require 1 year of college work, the other two require 2 years. Among the college subjects recommended are chemistry, English, biology, and physics.

Professional Curriculum and Degrees

The course of study in the early colleges of chiropody were of 6 months' duration. The time was increased to 9 months in 1916, to 2 years in 1921, to 3 years in 1931, and to 4 years in 1937. Prior to 1931 some of the colleges gave evening courses.

The course of study advocated by the Council on Education of the National Association of Chiropodists (outlined below) comprises a total of 4,160 hours covering a period of 4 years. The curriculums in the schools comprise from 4,200 to 4,400 hours of classroom, laboratory, and clinical instruction.

The principal subjects included in the curriculum are: Anatomy, chemistry, bacteriology, physiology, pathology, materia medica and therapeutics, chiropody, foot orthopedics, physical therapy, diagnosis and chiropodical medicine, dermatology, foot gear, surgery, orthopedic surgery, neurology, psychology, hygiene, roentgenology, and clinical practice. Some time is allowed in the curriculum for cultural subjects.

Upon completion of the undergraduate course, the degree doctor of surgical chiropody (D. S. C.) is conferred by 5 of the colleges; 1 college confers the degree doctor of podiatry (Pod. D.).

Postcollege Study

All of the colleges provide an elective clinical internship for graduates (a fifth year) in order to meet the requirements of certain State practice acts. Emphasis on all phases of clinical practice characterizes this period of special instruction.

The colleges offer advanced courses to graduate chiropodists. Such instruction includes didactic and clinical training in chiropody surgery, mechanical orthopedics, diagnosis, pediatrics, geriatrics, roentgenology, and physical therapy. Certificates are issued upon completion of such work, but the courses do not lead to degrees.

Current Problems

Education in chiropody is confronted with several important problems. Difficulty in securing competent teachers is a decided handicap. The practice

supply the data for the year 1952–53 in time for

French University Courses

of chiropody offers more lucrative economic returns than teaching and discourages good practitioners from associating themselves with the colleges. Despite many efforts to attract and retain able teachers, the problems associated with developing teaching staffs and research personnel are now far from solution. Perhaps greater appreciation by the public of better foot care will eventually result in available funds to make chiropodical teaching a more attractive career.

Another problem which is receiving much attention concerns efforts to enroll students who after graduation will be a credit to the profession and contribute to its advancement.

Several programs are now under way to encourage greater interest in chiropodical research. However, here again lack of needed funds is rather discouraging.

Also among the current problems is the provision for a well-balanced education in keeping with the strict requirements of the profession and with the broad cultural background essential to the modern chiropodist.

Schools of Chiropody and Enrollments

The 1953 fall enrollments of the six accredited schools of chiropody are shown by the following data. The first number represents the total, the second the number of women.

California
California College of Chiropody, 45–1.

Illinois
Chicago College of Chiropody and Pedic Surgery, 82–4; Illinois College of Chiropody and Foot Surgery, 130–3.

New York
Long Island University College of Podiatry, 158–3.

Ohio
Ohio College of Chiropody, 170–4.

Pennsylvania
Temple University, School of Chiropody, 140–8.

Total enrollment, 725–23

Selected References

Belleau, W. E. *Chiropody as a Career.* Milwaukee, Wis., Park Publishing House, 1952. 27 p.

National Association of Chiropodists. *Chiropody—Vocational Guidance Information.* Washington 10, D. C., The Association, 1953. 4 p.

Council on Education (Harry W. Weinerman, D. S. C., chairman). *Thirty-Third Annual Report.* Washington 10, D. C., The Association, 1952. 23 p.

West Coast College Scholarship Agreement

By a joint agreement, 13 West Coast colleges and universities hope to eliminate "bidding" for students through scholarship awards. Two types of awards will be made by them: honors at entrance, carrying no monetary grants, for academic achievement; and scholarship grants, in amounts according to financial need and not as a measure of academic achievement or honor. Theoretically, the program is designed so that eventually the amount of the awards will vary only in relation to the differences of fees among the participating institutions.

A uniform application form will be used by the colleges, and March 1 has been agreed on as the final date for filing applications for admission, beginning with the academic year 1955–56. The joint program will go into effect for the 1954–55 academic year at California Institute of Technology, Occidental College, Claremont Men's College, Pomona College, Scripps College, Lewis and Clark College, Reed College, and Whitman College. A year later it will go into effect at Mills College, Stanford University, University of Redlands, University of Southern California, and Whittier College.

Earned Degrees Conferred in Six Years

The Office of Educaton has completed its annual study of earned degrees conferred by the colleges and universities in 1952–53, and it has published a summary report as Circular No. 380a, December 1953. A table was published in the January number of Higher Education showing the number of degrees conferred by subjects. The accompanying table sets forth data for the past 6 years.

Data on earned degrees were first issued by the Office of Education in 1872, and from then until 1916 they were published annually in the *Report of the Commissioner of Education.* For the years 1917–18 through 1945–46, data on earned degrees were reported in the *Biennial Survey of Education.* Since the year 1947–48 they have been issued in separate circulars. The institutions value these reports, and they, usually through their registrars, cooperate wholeheartedly in sending the data to the Office of Education. Only one college failed to

supply the data for the year 1952–53 in time for inclusion in the report. The information thus made available is widely used by students of higher education, college officials, public officials, and others of the general public who need to keep informed of current significant developments in American higher education.

Number of earned degrees conferred in 1947–48 through 1952–53

Year (The number indicates the institutions)	Bachelor's and first professional degree [1]	Master's and second professional degree [2]	Doctor's degree [3]
1947–48 (1,214):			
Men	175,987	28,907	3,687
Women	96,157	13,510	501
Total	272,144	42,417	4,188
1948–49 (1,232):			
Men	264,168	35,278	4,771
Women	102,466	15,549	522
Total	366,634	50,827	5,293
1949–50 (1,282):			
Men	329,819	41,237	5,990
Women	103,915	16,982	643
Total	433,734	58,219	6,633
1950–51 (1,299):			
Men	279,343	46,231	6,664
Women	105,009	18,901	674
Total	384,352	65,132	7,338
1951–52 (1,327):			
Men	227,029	43,537	6,969
Women	104,895	19,934	714
Total	331,924	63,471	7,683
1952–53 (1,364):			
Men	200,820	40,989	7,517
Women	104,037	20,034	792
Total	304,857	61,023	8,309

[1] In addition to the B. S. and B. A. are reported such degrees as M. D., D. D. S. LL. B., B. C. E., and B. Chem. E.

[2] In addition to the M. S. and M. A. are reported such degrees as LL. M., M. B. A., and Th. M.

[3] In addition to the Ph. D. are reported such degrees as Ed. D. and Sc. D.

French University Courses

A NEW LEAFLET listing French university courses for foreign students, undergraduate level, is available on request from the French Cultural Services, 972 Fifth Avenue, New York 21. Information is given on such matters as courses, travel, student visa regulations, fees and expenses, and living accommodations.

Air Force Academy

A BILL (H. R. 5337), introduced by Mr. Short, "To provide for the establishment of a United States Air Force Academy, and for other purposes," passed the House by a vote of 329–36 on January 21, 1954. The bill provides that the academy be located "at such place within the United States as the Secretary of the Air Force shall determine," and authorizes the Secretary to establish a commission to advise him on the selection of a permanent location. Pending such selection, the Secretary is authorized to make temporary arrangements with civilian institutions for Air Force instructional services. The bill states that "All appropriate provisions of law not inconsistent with the purposes of this Act, which pertain to the United States Military Academy shall . . . also pertain to the United States Air Force Academy."

Several bills have been introduced to authorize establishment of the academy in particular locations.

New "Three-Two" Plans

SINCE THE APPEARANCE of the article "The Three-Two Plan—An Educational Experiment" in the December 1953 issue of HIGHER EDUCATION, the Office of Education has learned of a number of additional programs of this type.

Stanford University, New York University, and Texas Agricultural and Mechanical College are each conducting programs with one more liberal arts college than the number indicated in the December article.

Three additional engineering colleges have established "three-two" programs. These are Purdue University, the Municipal University of Wichita, and St. Louis University, each of which is cooperating with one liberal arts college.

This makes a total of 28 engineering colleges,

situated in 12 States, which are cooperating with 124 different liberal arts colleges situated in 33 States in 194 "three-two" programs. One liberal arts college is now cooperating with 5 different engineering colleges in "three-two" programs.

TIAA Institutions and Assets

A TOTAL of 634 educational institutions in the United States and Canada now have retirement plans administered by the Teachers Insurance and Annuity Association of America (TIAA). The association, established in 1918 by the Carnegie Foundation for the Advancement of Teaching and the Carnegie Corporation of New York, has assets of over $385 million, which places it in the top 5 percent of insurance companies in the United States, ranked by size of assets.

The College Retirement Equities Fund, established in 1952 as a separate corporation under TIAA auspices, now includes 401 of TIAA's cooperating institutions. It already has $4,500,000 in assets and 14,000 individual participants.

NEW PUBLICATIONS

Non-Government Publications

Obtain direct from the publishers. Prices are indicated when known.

Approved Internships and Residencies 1953: Annual Report on Internships and Residencies by the Council on Medical Education and Hospitals of the American Medical Association; Directory of Hospitals Approved for the Training of Interns and Residents. Chicago, American Medical Association, 1953. 160 p.

Association of Land-Grant Colleges and Universities: Proceedings of 66th Annual Convention, Nov. 11–13, 1952. Washington, The Association, 1953. 286 p.

Better Teaching—Our Common Goal. St. Louis 5, Mo., University College, Washington University [1953]. 32 p.

Censorship and Controversy: Report of the Committee on Censorship of Teaching Materials for Classroom and Library. 8110 S. Halsted St., Chicago 25, The National Council of Teachers of English, 1953. 56 p. 75 cents.

Education in Great Britain: An Outline of the Educational System. 30 Rockefeller Plaza, New York 20, British Information Services, 1952. I. D. 606 (revised), October 1952. 47 p.

Educational Testing Service Annual Report, 1952–53. 20 Nassau St., Princeton, N. J., The Service [1953]. 127 p.

The Greeks and the Education of Man, by Werner Jaeger. Annandale-on-Hudson, N. Y., Bard College, 1953. 19 p.

History of the University of Alabama, Vol. I, 1818–1902, by James B. Sellers. University, Ala., University of Alabama Press, 1953. 649 p. $5.

An authentic account of the frontier milieu in which the university was founded, the struggle of the trustees to convert the Federal land grants into operating capital, the efforts of the faculty members to obtain books and apparatus and discipline, and the efforts of the presidents to keep on peaceable terms with Tuscaloosa citizens, indifferent legislators, exuberant students, persistent bill collectors, and concerned parents.

The Inauguration of Charles Pinckney Hogarth as the Tenth President of The Mississippi State College for Women. Columbus, Miss., The College, 1953. 40 p.

Revised Minnesota Occupational Rating Scales, by Donald G. Paterson, C. d'A. Gerken, and Milton E. Hahn. Minneapolis 14, Minn., University of Minnesota Press, 1953. Minnesota Studies in Student Personnel Work No. 2. 85 p. $2.

The Role of Corporations in Aiding Higher Education. 6 East 45th St., New York 17, Council for Financial Aid to Education, Inc., 1953. 16 p.

Salary-Schedule Provisions or Salaries Paid in Degree-Granting Institutions, 1952–53. Washington 6, National Education Association, 1953. National Education Association Research Bulletin, Vol. XXXI, No. 4, Dec. 1953. 167 p. Single copy 50 cents; reduction for quantity orders.

Student Counseling in Japan: A Two-Nation Project in Higher Education, by Wesley P. Lloyd. Minneapolis 14, Minn., University of Minnesota Press, 1953. 204 p. $4.

University Institutes on Student Personnel Services are described by the director. The institutes provided a program for improving student personnel services through the technical training of faculty members from each of the colleges and universities of Japan.

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Television in School, College, and Community, by Jennie Waugh Callahan. New York, McGraw-Hill Book Company, Inc., 1953. 339 p. $4.75.

Shows how audio-visual specialists in the elementary and high schools, radio and TV directors in institutions of higher education, and a variety of community groups are carrying out the responsibility of educating people of all ages through television. In three parts: (1) Establishing an Educational-Television Station; (2) Programing for Educational Television; and (3) Educational TV Writing-Production Techniques.

Using Tests in Counseling: A Manual for the State-Wide Testing Programs of Minnesota, by Ralph F. Berdie, Wilbur L. Layton, and Theda Hagenah. Minneapolis 14, Minn., University of Minnesota Press, 1953. 86 p.

The Teaching-Learning Process, by Nathaniel Cantor. New York, The Dryden Press, Inc., 1953. 350 p.

A critical study of teaching and learning concerned largely with elementary and secondary; includes numerous protocols of a seminar on the teaching-learning process.

They Went to Adelbert College: A Survey of Alumni Opinion. Cleveland 6, Ohio, Western Reserve University, 1953. 32 p.

Toward Unity in Educational Policy: Report of the annual meeting of the organization members of the American Council on Education, Washington, D. C., January 30–31, 1953, Raymond F. Howes, *ed.* Washington, American Council on Education, 1953. American Council on Education Studies, Series I—Reports of Committees and Conferences—No. 55, Vol. XVII, July 1953. 230 p. $1.75.

The Year Book of Education 1953: Status and Position of Teachers, Robert King Hall, N. Hans, and J. A. Lauwerys, *ed.* Yonkers-on-Hudson, New York, World Book Co., 1953. 587 p. $8.

The year book this year deals with the social and economic position of teachers. Following six chapters on special studies, 33 chapters deal with teachers in 31 countries.

Student Life in the United States: Report of the Conference held at Haverford College, Haverford, Pennsylvania, June 12–16, 1953, Frank C. Abbott, *ed.* Washington, American Council on Education, 1953. American Council on Education Studies, Series I—Reports of Committees and Conferences—No. 57, Vol. XVII, October 1953. 91 p. $1.

Student Personnel Services in Higher Education, by Dugald S. Arbuckle. New York, McGraw-Hill Book Co., Inc., 1953. 352 p. $4.75.

The basic purpose is to help faculty members to understand the student personnel services offered on the college and university campus. Discusses extensively the organized student personnel services such as selection and admission of students, student orientation, counseling, religious services, health services, student aid, and student group activities.

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